APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,809	12/31/2001	Ge Nong	01-HK-048 (STMI01-01048)	5323

	7590	09/20/2006	EXAMINER

Lisa K. Jorgenson
STMicroelectronics, Inc.
1310 Electronics Drive
Carrollton, TX 75006

MURPHY, RHONDA L

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 09/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/036,809	Applicant(s) NONG, GE	
	Examiner Rhonda Murphy	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _30 June 2006_.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-20_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-20_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _31 December 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   This communication is responsive to the amendment filed on 6/30/06.

Accordingly, claims 1-20 are currently pending in this application.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1- 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Krishna et al. (US 6,563,837).

Regarding claims 1 and 4, Krishna teaches a switch fabric (Fig. 1; network device 49)

comprising: N input buffers (queues 56, 57, 58) capable of receiving incoming fixed-size

data packets at a first data rate and outputting said fixed-size data packets at a second

data rate equal to at least twice said first data rate (col. 8, lines 34-38); N output buffers

(queues 65) capable of receiving fixed-size data packets at said second data rate (col.

8, lines 10-15, 34-38); and a bufferless, non-blocking interconnecting network (Fig. 1,

col. 3, lines 63-65; col. 6, lines 60-61; channels 80 – 88 form crossbar 89, which does

not include any buffers) capable of receiving from said N input buffers said fixed-size

data packets at said second data rate and transferring said fixed-size data packets to

said N output buffers at said second data rate (col. 8, lines 10-15, 34-38).

Krishna fails to explicitly disclose outputting said fixed-size data packets at said

first data rate. However, Krishna discloses inputting packets at a certain data rate (col.

8, lines 34-35) and unloading packets onto output data links according to the speed of

those output data links (col. 8, lines 10-15). It is known in the art that packets are input

and output at the same data rate.

Thus, it would have been obvious to one skilled in the art to realize the output

data links output packets at the first data rate, since packets are input and output at the

same data rate.

Regarding claims 2 and 5, Krishna teaches a bufferless, non-blocking interconnecting

network, comprising a bufferless crossbar (Fig. 1, col. 3, lines 63-65; col. 6, lines 60-61;

channels 80 – 88 form crossbar 89, which does not include any buffers).

Regarding claims 3 and 6, Krishna teaches each of said N input buffers is at least

twice the size of each of said N output buffers (see Fig. 1).

Regarding claims 7 and 14, Krishna teaches a plurality of fixed-size data packet

switches (all elements of Fig. 1, col. 7, lines 35-36), at least one of said fixed-size data

packet switches comprising: N input ports capable of receiving incoming fixed-size data

packets at a first data rate and outputting said fixed-size data packets at said first data

rate (Fig. 1, ports 50, 51, 52; col. 8, lines 34-38); N output ports capable of receiving

fixed-size data packets at said first data rate (ports 59, 60, 61; col. 8, lines 10-15); and

a switch fabric (network device 49; col. 6, lines 60-61) interconnecting said N input ports

and said N output ports comprising: N input buffers (queues 56, 57, 58) capable of

receiving incoming fixed-size data packets at a first data rate and outputting said fixed-

size data packets at a second data rate equal to at least twice said first data rate (col. 8, lines 34-38); N output buffers (queues 65) capable of receiving fixed-size data packets at said second data rate (col. 8, lines 10-15, 34-38); and a bufferless, non-blocking interconnecting network (Fig. 1, col. 3, lines 63-65; col. 6, lines 60-61; channels 80 – 88 form crossbar 89, which does not include any buffers) capable of receiving from said N input buffers said fixed-size data packets at said second data rate and transferring said fixed-size data packets to said N output buffers at said second data rate (col. 8, lines 10-15, 34-38).

Krishna fails to explicitly disclose outputting said fixed-size data packets at said first data rate. However, Krishna discloses inputting packets at a certain data rate (col. 8, lines 34-35) and unloading packets onto output data links according to the speed of those output data links (col. 8, lines 10-15). It is known in the art that packets are input and output at the same data rate.

Thus, it would have been obvious to one skilled in the art to realize the output data links output packets at the first data rate, since packets are input and output at the same data rate.

Regarding claims 8 and 15, Krishna teaches a bufferless, non-blocking interconnecting network comprising a bufferless crossbar (Fig. 1, col. 3, lines 63-65; col. 6, lines 60-61; channels 80 – 88 form crossbar 89, which does not include any buffers).

Regarding claims 9 and 16, Krishna teaches each of said N input buffers is at least twice the size of each of said N output buffers (see Fig. 1).

Regarding claims 10 and 17, Krishna teaches a scheduling controller capable of

scheduling transfer of said fixed-size data packets from said N input ports to said switch

fabric (arbiter 90; col. 8, lines 24-38).

Regarding claims 11 and 18, Krishna teaches a scheduling controller capable of

scheduling transfer of said fixed-size data packets from said N output ports to an

external device (col. 8, lines 5-15; 24-38).

Regarding claims 12 and 19, Krishna teaches a scheduling controller capable of

scheduling transfer of said fixed-size data packets from said N input buffers to said

bufferless, non-blocking interconnecting network (col. 8, lines 5-15; 24-38).

Regarding claims 13 and 20, Krishna teaches a scheduling controller capable of

scheduling transfer of said fixed-size data packets from said N output buffers to said N

output ports (col. 8, lines 5-15; 24-38).

Response to Arguments

3.   Applicant's arguments filed 6/30/06 have been fully considered but they are not

persuasive. Applicant argues Krishna fails to teach the input buffers receiving at a first

data rate and the output buffers outputting at the first data rate. Applicant further argues

there is no motivation to use obviousness with the Krishna reference for the output

buffers outputting at the first data rate. However, Examiner respectfully disagrees.

Krishna discloses inputting packets at a certain data rate (col. 8, lines 34-35) and

unloading packets onto output data links according to the speed of those output data

links (col. 8, lines 10-15). Therefore, it would have been obvious to one skilled in the art

to realize the input buffers are capable of receiving at a first data rate and the output buffers are capable of outputting data packets at a first data rate (*speed of those output data links*). The speed of the output data links is thus, capable of outputting at the first data rate. Furthermore, use of the term "capable of" is not a positive limitation and does not require the limitation following the term "capable of" to be performed. Refer to MPEP 2111.04 AND 2106 (C).

4.   Applicant also argues Krishna fails to disclose a bufferless, non-blocking interconnecting network. Examiner respectfully disagrees and would like to direct the applicant's attention to Figure 1, crossbar/switch fabric 89 and col. 3, lines 63-65 and also col. 6, lines 60-61, in which channels 80-88 form crossbar 89, which does not include any buffers. Thus, the claimed limitation is taught by the Krishna reference.

Conclusion

5.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda Murphy whose telephone number is (571) 272-3185. The examiner can normally be reached on Monday - Friday 8:00 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rhonda Murphy
Examiner
Art Unit 2616

RM

CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600